IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: Design

DATE: March 30, 2011

ATTENTION: Jim R. Schoenrock

REF. : Warren County
Proj. #: STPN-065-3(61)--2J-91

FROM: Robert L. Stanley

PIN: 09-91-065-010

OFFICE: Design

SUBJECT: Completed S1 Review

Soils Design has completed the S1 Review for the above-referenced project, and our results are discussed and presented within this memorandum. The proposed project involves safety improvements at the intersection of U.S. 65/69 and Scotch Ridge Road (County Road G-16) 2.5 miles S of IA 5/U.S. 65/U.S. 69 Interchange. The total project length is approximately 0.57 miles.

Material and other items used for the S1 included topographic maps, aerial photographs, soil survey maps, and LIDAR imagery. A field review was done by Matthew Trainum, Robert Stanley, and Adrianne Knight on March 15, 2011.

Grade/Alignment Review

There are no geotechnical aspects identified within the proposed corridor that would prevent the project from being completed or necessitate changing the alignment.

Borrows

Soils Design understands that this project has an approximate borrow need of 51,090 CY. Therefore, Soils Design has identified seven (7) potential borrow sites. There is the possibility that any of these sites may turn out to be unsuitable or have archeological conflicts, wetland conflicts or other problems. Typically, Soils Design identifies more and/or larger borrow sites than will likely be required.

The potential borrow sites were chosen based on the following criteria; potential for Class 10 material, topographic advantages, re-use of existing right of way, and to a certain degree, helping to correct existing problems. Most potential borrow sites are in close proximity to the proposed alignment except sites 1, 6, and 7. It is Soil Design's objective to select potential borrow sites that will have minimal impact to farmland, by selecting irregular shaped plots, landlocked areas, etc, as well as not locate sites too close to homesteads, environmental sites, apparent wetlands, etc.

All potential borrow sites should be good sources for Class 10 material. The potential for Select material is limited.

Potential Borrow Site 1: This site is approximately 7 acres and would be a drainable

borrow. The soils are derived from Loess. At this site, an old backslope slide was identified on the backslope of Northbound U.S. 65/69. Pushing the existing backslope to the east and/or flattening it to drain better would repair the old backslope slide and potentially obtain enough material for use on this project.

Potential Borrow Site 2: This site is approximately 10 acres and would very likely be a drainable borrow. The soils are derived from Loess. This site would remove existing out-buildings from an apparent previous farmstead, and is anticipated to be desirable only if the property owner desires or is fully receptive to loss of these out-buildings. We hope and request that District 1 will talk to the property owner about this.

Potential Borrow Site 3: This site is approximately 8 acres and would likely be a drainable borrow. The soils are derived from Loess and Alluvium.

Potential Borrow Site 4: This site is approximately 8 acres and would likely be a drainable borrow. The soils are derived from Loess, Weathered Shale, and Alluvium.

Potential Borrow Site 5: This site is approximately 19 acres and would likely be a drainable borrow. The soils are derived from Loess and Alluvium.

Potential Borrow Site 6: This site is approximately 75 acres and would make use of the excess material in the existing infield areas of the U.S. 65/IA 5 Interchange. The soils are derived from Glacial Till, Loess, Alluvium, and Paleosols. This site would be a drainable borrow.

Potential Borrow Site 7: This site is approximately 18 acres and would make use of the excess material in the existing south infield areas of the U.S. 65/Army Post Rd. Interchange. The soils are derived from Alluvium, Loess, Glacial Till, and Colluvium. This site would be a drainable borrow.

The outlines of the seven potential borrow sites can be found in the S1 Submittal folder of the Project Directory as a:

1. Microstation file-
   W:\Projects\9106501009\Soils\S1Submittal\91065061_S1.sol
2. Photo file (Aerial photo)-
   W:\Projects\9106501009\Soils\S1Submittal\91065061_S1.jpg
3. KML file-
   W:\Projects\9106501009\Soils\S1Submittal\91065061_S1.kml

After more information is obtained, as project development progresses, and after drilling, there is the possibility of some of the potential borrow sites being eliminated. We anticipate ending up with one or possibly two of the potential borrow sites being used as final/selected borrows on this project, depending on final need and need location.

Soils Design requests that Photogrammetry review the need for additional air photo coverage and survey control of those potential borrow sites that extend beyond present coverage. Soils Design also requests feedback from the District, Office of Right of Way,

and the Office of Location and Environment (concerning archeological, cultural, wetland, and/or environmental conflicts).

You may indicate your acceptance or request additional information by e-mail.

RLS:ak:mk

cc:

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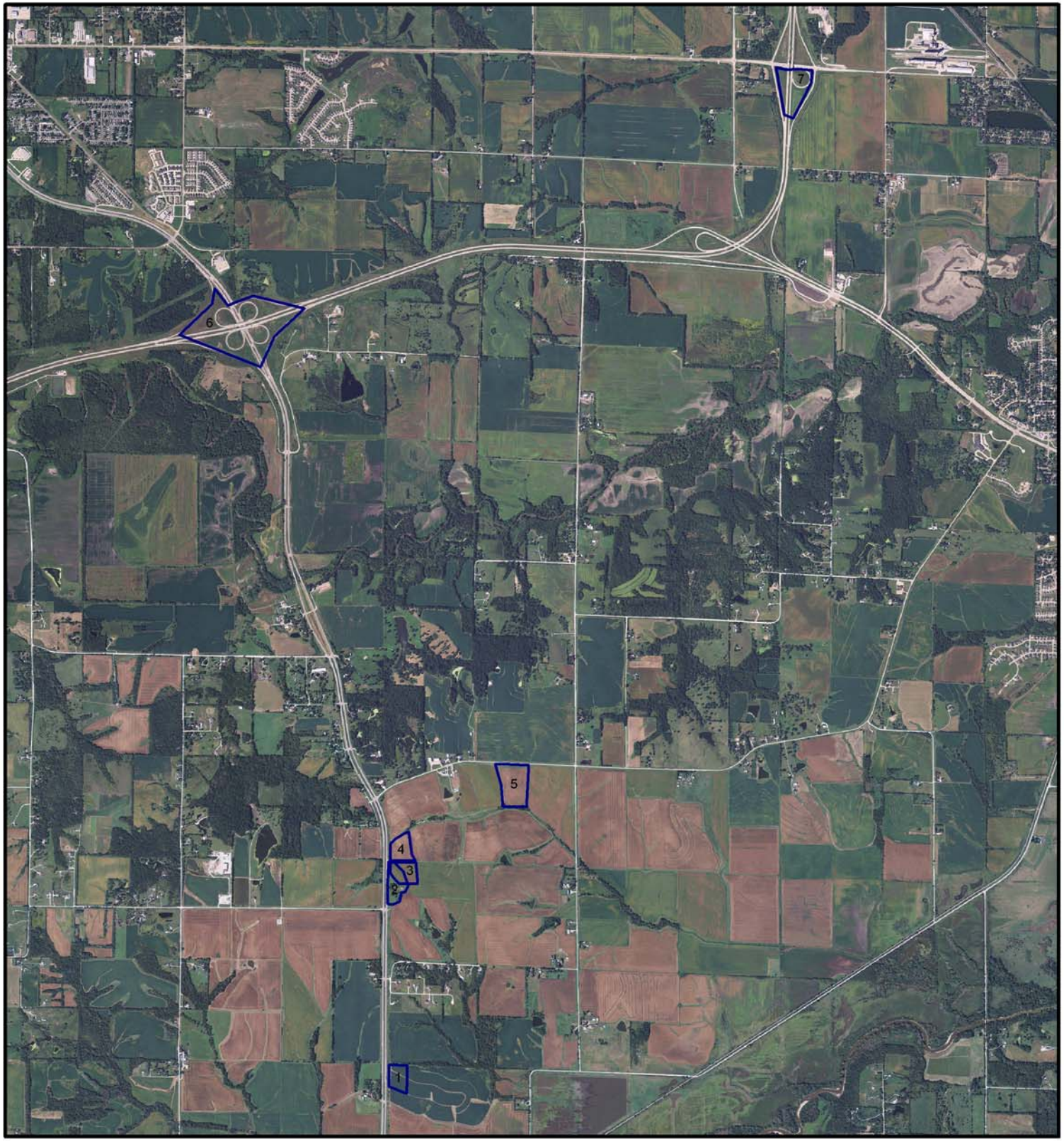

STPN-065-3(61)- -2J-91
S1 Review

Potential S1 Borrows

0.00 0.25 0.50 0.75 1.00
Miles

NORTH

STPN-065-3(61)- -2J-91
S1 Review

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S1 Review

Potential S1 Borrows

NORTH

0 100 200 300 400 500

Feet

STPN-065-3(61)- -2J-91
S1 Review

Potential S1 Borrow

NORTH

0 200 400 600 800 1000

Feet

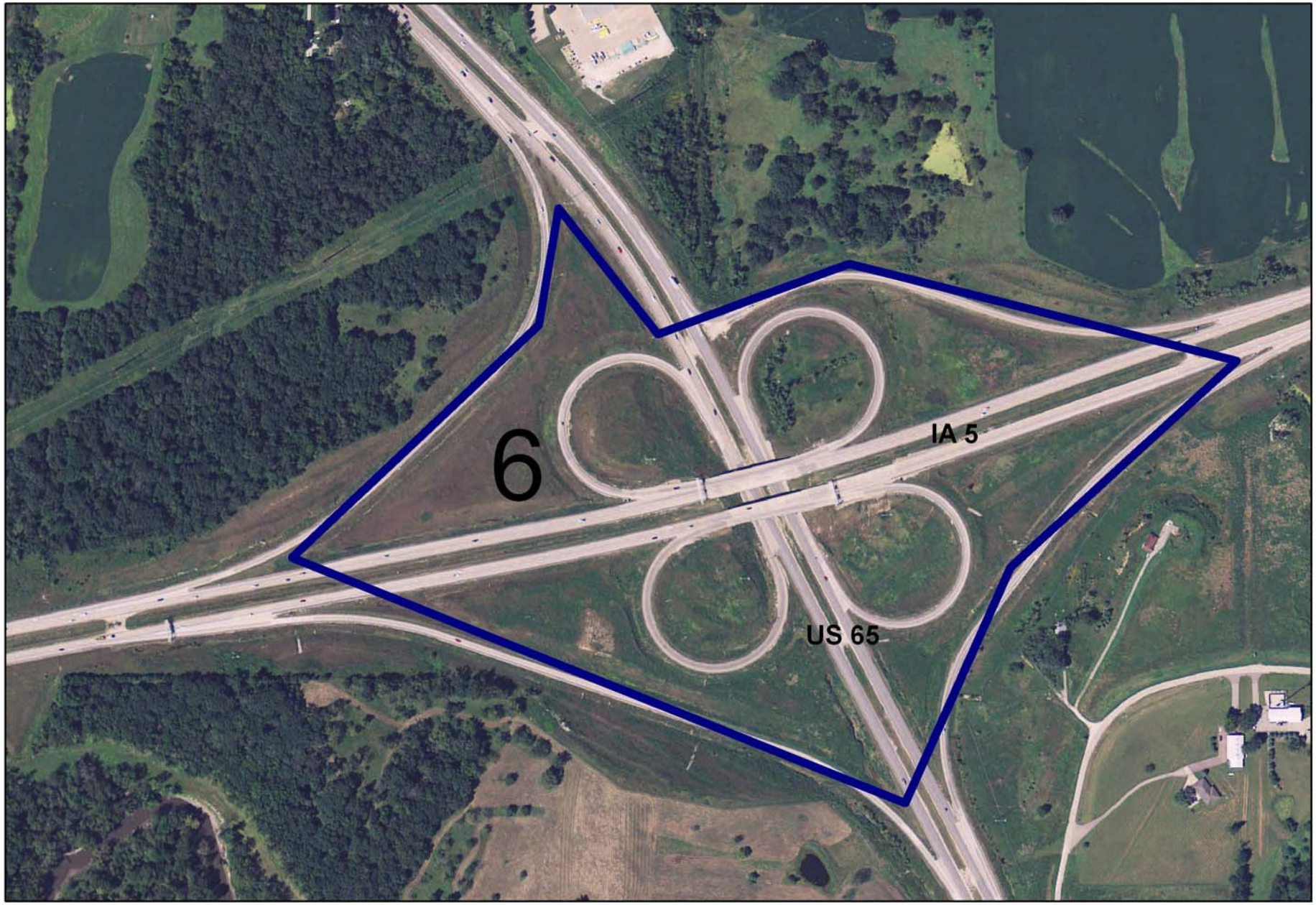
STPN-065-3(61)- -2J-91
S1 Review

Potential S1 Borrow

NORTH

0 100 200 300 400 500
Feet

STPN-065-3(61)- -2J-91
S1 Review



Potential S1 Borrow

NORTH

0 200 400 600 800 1000

Feet

STPN-065-3(61)- -2J-91
S1 Review

Potential S1 Borrow

NORTH

0 200 400 600 800 1000

Feet